H1

33. (**Thrice Amended**) The composition of claim 49, wherein said peripheral tissue comprises tongue.

H2

41. (**Thrice Amended**) The composition of any of the claims 49-52, wherein said neural stem cells are transfected with a heterologous gene.

H3

42. (**Twice Amended**) The composition of claim 41, wherein said gene encodes a trophic factor.

H4

43. (**Thrice Amended**) A mitotic cell that is the progeny of a neural stem cell of any of the claims 49-52.

44. (**Thrice Amended**) A differentiated cell that is the progeny of a neural stem cell of any of the claims 49-52.

45. (**Reiterated**) The differentiated cell of claim 44, wherein said cell is selected from the group consisting of a neuron, an astrocyte, and an oligodendrocyte.

H5

46. (**Amended**) A pharmaceutical composition comprising a mitotic or differentiated cell that is the progeny of a neural stem cell isolated from a peripheral tissue of a postnatal mammal, wherein said peripheral tissue comprises a sensory receptor, and a pharmaceutically acceptable carrier, auxiliary or excipient.

H6

47. (**Four Times Amended**) A pharmaceutical composition comprising a purified neural stem cell population isolated from a peripheral tissue of a postnatal mammal, wherein said peripheral tissue comprises a sensory receptor, and a pharmaceutically acceptable carrier, auxiliary or excipient.

H7

49. (**Four Times Amended**) An isolated composition of neural stem cells of a mammal, said stem cells produced by a method comprising the steps of:

(a) providing a culture of peripheral tissue containing sensory receptors from said mammal;

(b) isolating neural stem cells from said peripheral tissue, based on the tendency of said neural stem cells to aggregate and form non-adherent clusters in culture,

H7

wherein said neural stem cells express nestin, are self renewing, are capable of producing neurons and glia, and can differentiate into dopaminergic neurons.

50. (**Amended**) An isolated composition comprising a purified population of mammalian neural stem cells, which neural stem cells form non-adherent clusters in culture, are self renewing, express nestin and glutamic acid decarboxylase (GAD), and can differentiate into cell types of the central nervous system.

51. (**Amended**) An isolated composition comprising a purified population of mammalian neural stem cells, which neural stem cells form non-adherent clusters in culture, are self renewing, express nestin, and can differentiate into dopaminergic neurons.

H8

52. (**Amended**) An isolated composition comprising a purified population of mammalian neural stem cells, which neural stem cells form non-adherent clusters in culture, are self renewing, proliferate in an EGF-independent manner, and can differentiate into cell types of the central nervous system.

54. (**Amended**) The composition of claims 50 or 51, which neural stem cells can proliferate in an EGF-independent manner.

Sub I

55. (**Amended**) The composition of claim 54, which neural stem cells differentiate, in the presence of serum, into neurons expressing tyrosine hydroxylase.

H9

56. (**Amended**) The composition of any of the claims 49-54, which neural stem cells differentiate into cells expressing at least one marker selected from the group consisting of Glial Fibrillary Acid Protein (GFAP), neurofilament 160, β III tubulin, NeuN, galactocerebroside, tyrosine hydroxylase, and dopamine β-dehydrogenase.

57. (**Amended**) The composition of any of the claims 49-54, which neural stem cells differentiate, in the presence of serum, into dopaminergic cells.

58. (**Amended**) The composition of any of the claims 49-54, which neural stem cells are human stem cells.

H9

59. (**Amended**) An isolated composition of differentiated cells of claim 44, 49-54, wherein said differentiated cells expresses tyrosine hydroxylase.

H10

60. (**Twice Amended**) An isolated composition of any of claims 49-54, formulated in a pharmaceutically acceptable carrier, auxiliary or excipient.

The amended claims are restated below to reflect changes from the last filing.

32. (**Thrice Amended**) The ~~cellular~~ composition of claim 49, wherein said peripheral tissue comprises olfactory epithelium.

33. (**Thrice Amended**) The ~~cellular~~ composition of claim 49, wherein said peripheral tissue comprises tongue.

41. (**Thrice Amended**) The ~~cellular~~ composition of any of the claims 49-52~~53~~, wherein said neural stem cells are transfected with a heterologous gene.

42. (**Twice Amended**) The ~~cellular~~ composition of claim 41, wherein said gene encodes a trophic factor.

43. (**Thrice Amended**) A mitotic cell that is the progeny of a neural stem cell of any of the claims 49-52~~53~~.

44. (**Thrice Amended**) A differentiated cell that is the progeny of a neural stem cell of any of the claims 49-52~~53~~.

46. (**Amended**) A pharmaceutical composition comprising a mitotic or differentiated cell that is the progeny of a neural stem cell isolated from a peripheral tissue of a postnatal mammal,

wherein said peripheral tissue comprises a sensory receptor, and a pharmaceutically acceptable carrier, auxiliary or excipient.

47. (**Four Times Amended**) A pharmaceutical composition comprising a purified neural stem cell population isolated from a peripheral tissue of a postnatal mammal, wherein said peripheral tissue comprises a sensory receptor, and a pharmaceutically acceptable carrier, auxiliary or excipient.

49. (**Four Times Amended**) ~~A~~ An isolated ~~cellular~~ composition of neural stem cells of a mammal, said stem cells produced by a method comprising the steps of:

(a) providing a culture of peripheral tissue containing sensory receptors from said mammal;

(b) isolating neural stem cells from said peripheral tissue, based on the tendency of said neural stem cells to aggregate and form non-adherent clusters in culture,

wherein said neural stem cells express nestin, are self renewing, are capable of producing neurons and glia, and can differentiate into dopaminergic neurons.

50. (**Amended**) ~~A cellular~~ An isolated composition comprising a purified population of mammalian neural stem cells, which neural stem cells form non-adherent clusters in culture, are self renewing, express nestin and glutamic acid decarboxylase (GAD), and can differentiate into cell types of the central nervous system.

51. (**Amended**) ~~A cellular~~ An isolated composition comprising a purified population of mammalian neural stem cells, which neural stem cells form non-adherent clusters in culture, are self renewing, express nestin, and can differentiate into dopaminergic neurons.

52. (**Amended**) ~~A cellular~~ An isolated composition comprising a purified population of mammalian neural stem cells, which neural stem cells form non-adherent clusters in culture, are self renewing, proliferate in an EGF-independent manner, and can differentiate into cell types of the central nervous system.

54. (**Amended**) The ~~cellular~~ composition of ~~any of the~~ claims 50~~,~~ or 51~~, or 53~~, which neural stem cells can proliferate in an EGF-independent manner.

55. (**Amended**) The ~~cellular~~ composition of claim 54, which neural stem cells differentiate, in the presence of serum, into neurons expressing tyrosine hydroxylase.

56. (**Amended**) The ~~cellular~~ composition of any of the claims 49-54, which neural stem cells differentiate into cells expressing at least one marker selected from the group consisting of Glial Fibrillary Acid Protein (GFAP), neurofilament 160, β III tubulin, NeuN, galactocerebroside, tyrosine hydroxylase, and dopamine β-dehydrogenase.

57. (**Amended**) The ~~cellular~~ composition of any of the claims 49-54, which neural stem cells differentiate, in the presence of serum, into dopaminergic cells.

58. (**Amended**) The ~~cellular~~ composition of any of the claims 49-54, which neural stem cells are human stem cells.

59. (**Amended**) ~~A cellular~~ An isolated composition of differentiated cells of claim 44, 49-54, wherein said differentiated cells expresses tyrosine hydroxylase.

60. (**Twice Amended**) ~~A cellular~~ An isolated composition of any of claims 49-54, formulated in a pharmaceutically acceptable carrier, auxiliary or excipient.

REMARKS

Claims 32-33, 38, 41-47 and 49-60 constitute the pending claims in the present application. Applicants cancel, without prejudice, claim 38 and claim 53. Applicants respectfully request reconsideration in view of the following remarks. Issues raised by the Examiner will be addressed below in the order they appear in the prior Office Action.

1. Claims 32-33, 38, 41-47 and 49 are rejected under 35 U.S.C. 101 as allegedly being directed to non-statutory subject matter. The Office Action alleges that claim 49 is directed to